

Claims

We claim:

1. A *Salmonella* microorganism having an attenuating mutation which disrupts the expression of a gene located within the Spi2 pathogenicity island, and an auxotrophic mutation.
2. The microorganism according to claim 1, wherein the auxotrophic mutation disrupts the expression of an *aro* gene.
3. The microorganism according to claim 2, wherein the *aro* gene is *aroC*.
4. The microorganism according to claim 1, wherein the attenuating mutation disrupts the expression of an apparatus gene located within Spi2.
5. The microorganism according to claim 1, wherein the attenuating mutation disrupts the expression of any of the *ssaV*, *ssaJ*, *ssaK* or *ssaM* genes.
6. The microorganism according to claim 1, wherein the attenuating mutation disrupts *ssaV* and the auxotrophic mutation disrupts *aroC*.
7. The microorganism according to claim 1, wherein the attenuating mutation is within an intergenic region between *ssaK* and *ssaJ*.
8. The microorganism according to claim 1, wherein the microorganism further comprises a heterologous antigen or a therapeutic protein.

9. The microorganism according to claim 8, wherein the antigen is a hepatitis A, B or C antigen.
10. The microorganism according to claim 1, wherein the microorganism is *Salmonella typhi* Ty2.
11. The microorganism according to claim 1, wherein the microorganism is the microorganism designated herein as ZH9 or WT05.
12. A vaccine composition comprising a microorganism according to claim 1, and an adjuvant and a physiologically acceptable diluent.
13. The vaccine composition according to claim 12, comprising from about  $10^7$  to about  $10^{10}$  CFUs in a single dosage unit.
14. The vaccine composition according to claim 13, comprising from about  $10^8$  to about  $10^9$  CFUs in a single dosage unit.
15. A method for treating or preventing a *Salmonella* infection, comprising administering to a patient a microorganism according to claim 1.
16. The method according to claim 15, for the treatment of typhoid.